GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Geographic Information Systems, PG_00069937		
Field of study	Real Estate 5.0		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2025/2026
Education level	second-cycle studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish Polish
Semester of study	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geodesy -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Adam Inglot	
	Teachers	dr inż. Adam Inglot mgr inż. Monika Gierszewska	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	45.0	0.0	0.0	60

E-learning hours included: 0.0

eNauczanie source addresses:

Moodle ID: 4059 Systemy geoinformacyjne (WILiŚ, N, st. II, sem. 1) - rok 2025/2026
https://enauczanie.pg.edu.pl/2025/course/view.php?id=4059

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	60	2.0	13.0	75

Subject objectives

The aim of the course is to introduce students to the fundamentals of Geographic Information Systems (GIS) and to methods of acquiring, integrating, analyzing, and visualizing spatial data. Particular emphasis is placed on the use of the national spatial information infrastructure, including the Geoportal and other portals providing access to spatial data. Students learn how to search for, acquire, and interpret spatial data, particularly data related to real estate, and how to process and analyze such data using GIS tools. The course also aims to develop practical skills in applying geoinformation technologies to spatial analyses related to real estate management and spatial planning.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_U01] is able to apply legal regulations and knowledge of real estate management to solve practical professional problems encountered by property valuers, real estate agents, property managers, and other specialists operating within the real estate sector. The student is capable of analyzing and interpreting data from real estate information systems and other sources, preparing and evaluating documentation related to real estate transactions and management, as well as applying the principles of civil, administrative, and commercial law in real estate market practice	The student is able to use Geographic Information Systems (GIS) and spatial data obtained from real estate information systems and public spatial data portals to analyze and interpret information related to real estate. The student can acquire, process, and visualize spatial data, and use the results of GIS analyses to support decision-making processes related to real estate management and property market activities.	[SU5] Assessment of ability to present the results of task
[K7_W01] possesses advanced knowledge and understanding of selected legal issues relevant to the professional activities of property valuers, real estate agents, property managers, and other specialists operating within the real estate sector, as well as of selected aspects of asset management, including specific categories of property assets. The student has a basic understanding of real estate information systems and other data sources used in professional practice	The student understands selected legal and organizational aspects related to real estate management and the functioning of real estate information systems. The student has basic knowledge of spatial data sources used in the real estate sector, including public spatial data portals and official registers, and understands their role in supporting professional activities related to real estate management and property market analysis.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Course content – lecture

The lectures introduce the fundamentals of Geographic Information Systems (GIS), sources of spatial data, and the national spatial information infrastructure. Particular attention is given to the use of the Geoportal and other spatial data portals that provide information relevant to real estate. The possibilities of using spatial data in analyses supporting real estate management are also discussed.

Course content – laboratory

The laboratory classes are practical and involve working with GIS software and spatial data portals. Students learn how to search for, acquire, and interpret spatial data, particularly data related to real estate, and how to process and visualise such data using GIS tools. During the classes, basic spatial analyses supporting the interpretation of real estate information are performed.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
test	50.0%	50.0%
project	50.0%	50.0%

Recommended reading

Basic literature

1. DavidE.Davis Gis dla każdego

2. Jerzy Gaździcki Systemy Informacji przestrzennej

3. P.Longley, M.Goodchild, D.Maguire, D.Rhind GIS Teoria i praktyka

4. Laska, M., Systemy informacji przestrzennej

5. Litwin, L., Myrda, G., Systemy Informacji Geograficznej. Zarządzanie danymi przestrzennymi w GIS, SIP, SIT, LIS.

6. Urbański, J. Zrozumiec GIS. Analiza informacji przestrzennej

	Supplementary literature	1. J.Pomykała,J.Pomykała Systemy informacyjne 2. M.Kraak,F.Ormeling Kartografia wizualizacja danych przestrzennych 3. A.Magnuszewski GIS w geografii fizycznej 4. Gotlib D., Iwaniak A., Olszewski R.: GIS. Obszary zastosowań. Wyd. Naukowe PWN. Warszawa. 2007 5. Felcenloben D. Geoinformacja. Wprowadzenie do systemów organizacji danych i wiedzy.Gall
	eResources addresses	
Example issues/ example questions/ tasks being completed	• Searching for and interpreting real estate information using the Geoportal and other spatial data portals. • Identification of cadastral parcels and analysis of selected spatial information related to real estate. • Acquiring spatial data from public data portals and preparing it for further analysis in a GIS environment. • Using GIS tools for visualisation and basic analysis of spatial data related to real estate. • Interpreting the results of spatial analyses in the context of real estate management.	
Practical activites within the subject	Not applicable	

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